



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-5598; Directorate Identifier 2016-NM-001-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede Airworthiness Directive (AD) 2012-22-02, which applies to certain The Boeing Company Model 747-400, -400D, and -400F series airplanes. AD 2012-22-02 currently requires measuring the web at station (STA) 320 and, depending on findings, various inspections for cracks and missing fasteners, web and fastener replacement, and related investigative and corrective actions if necessary. Since we issued AD 2012-22-02, it was determined that there were no inspection or repair procedures included for airplanes with a STA 320 crown frame web thickness less than 0.078 inch, or greater than or equal to 0.084 inch and less than or equal to 0.135 inch. This proposed AD would require, for certain airplanes, replacement of the web, including related investigative and corrective actions if necessary. We are issuing this AD to prevent complete fracture of the crown frame assembly, and consequent damage to the skin. Such damage could result in in-flight decompression of the airplane.

**DATES:** We must receive comments on this proposed AD by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5598.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5598; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Bill Ashforth, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601

Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6432; fax: 425-917-6590; email: Bill.Ashforth@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2016-5598; Directorate Identifier 2016-NM-001-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

On October 19, 2012, we issued AD 2012-22-02, Amendment 39-17238 (77 FR 69739, November 21, 2012) (“AD 2012-22-02”), for certain The Boeing Company Model 747-400, -400D, and -400F series airplanes. AD 2012-22-02 requires measuring the web at STA 320 and, depending on findings, various inspections for cracks and missing fasteners, web and fastener replacement, and related investigative and corrective actions if necessary. AD 2012-22-02 resulted from reports of crown frame web cracking at left buttock line (LBL) 15.0, STA 320. We issued AD 2012-22-02 to prevent complete fracture of the crown frame assembly, and consequent damage to the skin and in-flight decompression of the airplane.

### **Actions Since AD 2012-22-02 Was Issued**

Since we issued AD 2012-22-02, it was determined that there was no work included for airplanes with a STA 320 crown frame web thickness less than 0.078 inch, or greater than or equal to 0.084 inch and less than or equal to 0.135 inch.

### **Related Service Information under 1 CFR part 51**

We reviewed Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015. The service information describes procedures for various inspections for cracks and missing fasteners, web and fastener replacement, and related investigative and corrective actions, if necessary. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the **ADDRESSES** section.

### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements**

Although this proposed AD does not explicitly restate the requirements of AD 2012-22-02, this proposed AD would retain certain requirements of AD 2012-22-02. Those requirements are referenced in the service information identified previously, which, in turn, is referenced in paragraphs (h), (i), and (k) of this proposed AD. This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between the Proposed AD and the Service Information."

For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5598.

The phrase “related investigative actions” is used in this proposed AD. Related investigative actions are follow-on actions that (1) are related to the primary action, and (2) further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

The phrase “corrective actions” is used in this proposed AD. Corrective actions correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

### **Differences Between this Proposed AD and the Service Information**

For Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, Table 4: STA 320 Post Web Replacement Inspection of paragraph 1.E., “Compliance,” the conditional action statement does not include airplanes that were inspected or repaired in accordance with Part 8 of the Work Instructions. The statement should read: “All airplanes that have done the STA 320 crown frame web replacement in accordance with paragraph 3.B. WORK INSTRUCTIONS, PARTS 5 OR PART 8.” Paragraph (k) of this proposed AD applies to all airplanes on which a web replacement is done as required by paragraphs (h), (i), and (j) of the proposed AD, e.g., the replacement is done as specified in Part 5 or Part 8 of paragraph 3.B., “Work Instructions,” of the service information.

### **Costs of Compliance**

We estimate that this proposed AD affects 29 airplanes.

We estimate the following costs to comply with this proposed AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Measurement, inspection, and web replacement. [retained actions from AD 2012-22-02]	219 work-hours X \$85 per hour = \$18,615	Up to \$21,887	Up to \$40,502 per inspection and replacement	\$Up to 1,174,558
Post-replacement inspection [retained actions from AD 2012-22-02]	135 work-hours X \$85 per hour = \$11,475 per inspection cycle	\$0	\$11,475 per inspection cycle	\$332,775 per inspection cycle

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska and,
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2012-22-02, Amendment 39-17238 (77 FR 69739 November 21, 2012), and adding the following new AD:

**The Boeing Company:** Docket No. FAA-2016-5598; Directorate Identifier 2016-NM-001-AD.

**(a) Comments Due Date**

The FAA must receive comments on this AD action by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**(b) Affected ADs**

This AD replaces AD 2012-22-02, Amendment 39-17238 (77 FR 69739, November 21, 2012) (“AD 2012-22-02”).

**(c) Applicability**

This AD applies to The Boeing Company Model 747-400, -400D, and -400F series airplanes, certificated in any category, as specified in Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Unsafe Condition**

This AD was prompted by reports of crown frame web cracking at left buttock line (LBL) 15.0, station (STA) 320 and a determination that there were no inspection or repair procedures included in AD 2012-22-02 for airplanes with a STA 320 crown frame web thickness less than 0.078 inch, or greater than or equal to 0.084 inch and less than or equal to 0.135 inch. We are issuing this AD to prevent complete fracture of the crown frame assembly, and consequent damage to the skin. Such damage could result in in-flight decompression of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.



**(g) Crown Frame Web Measurement for Certain Airplanes**

For Group 1, Configuration 3 airplanes identified in Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015: At the compliance time specified in Table 1 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, measure the thickness of the crown frame web at STA 320, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, except as required by paragraph (l)(2) of this AD. Do all related investigative and corrective actions at the applicable times specified in Table 2 and Table 3 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015.

**(h) Inspections (Web with No Repair Doubler) and Related Investigative and Corrective Actions (Including Web Replacement)**

For Group 1, Configuration 1 airplanes identified in Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015: For airplanes with a web thickness less than 0.136 inch and no repair doubler installed on the web, at the time specified in Table 2 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, do a detailed inspection for cracks and a general visual inspection for missing fasteners of the crown frame web at STA 320; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, except as specified in paragraph (l)(2) of this AD. Do the applicable related investigative and corrective actions at the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015.

**(i) Inspection (Web with Repair Doubler) and Related Investigative and Corrective Actions (Including Web Replacement)**

For Group 1, Configuration 1 airplanes identified in Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015: For airplanes with a web thickness less than 0.136 inch and a repair doubler installed on the web, at the time specified in Table 3 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, do a detailed inspection for any crack in the upper chord and lower chord of the STA 320 crown frame; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, except as specified in paragraph (l)(2) of this AD. Do the applicable related investigative and corrective actions at the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015. At the applicable compliance time specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, except as provided by paragraph (l)(1) of this AD, do the actions specified in paragraphs (i)(1) and (i)(2) of this AD, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747- 53A2784, Revision 2, dated August 20, 2015, except as required by paragraph (l)(2) of this AD. Do all applicable corrective actions before further flight.

(1) Replace the web with a new web and do all applicable related investigative actions.

(2) Do a detailed inspection for cracks in the upper or lower chord of the crown frame web at STA 320.

**(j) Web Replacement for Certain Airplanes**

For Group 1, Configuration 2 airplanes identified in Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015: At the applicable time specified in Table 5 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, except as provided by paragraph (l)(1) of this AD, replace the web, including doing related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, except as required by paragraph (l)(2) of this AD. Do all applicable related investigative and corrective actions before further flight.

**(k) Post-Replacement Repetitive Inspections of Replaced Web**

Following any web replacement required by this AD, at the time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015: Do a detailed inspection for cracks of the web, upper chord, lower chord, and lower chord splice, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, except as required by paragraph (l)(2) of this AD. Do all applicable corrective actions before further flight. If no crack is found, repeat the inspection thereafter at the intervals specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015. Accomplishment of the inspections required by AD 2009-19-05, Amendment 39-16022 (74 FR 48138, September 22, 2009), terminates the requirements of this paragraph.

**(l) Exceptions to the Service Information with Updated Service Information**

(1) Where Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, specifies a compliance time "after the Revision 2 date of the service bulletin,"

this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 747-53A2784, Revision 2, dated August 20, 2015, specifies to contact Boeing for appropriate action, accomplish applicable actions before further flight using a method approved in accordance with the procedures specified in paragraph (n) of this AD.

**(m) Credit for Previous Actions**

(1) This paragraph provides credit for the actions required by paragraphs (h), (i), and (k) of this AD, if those actions were performed before December 26, 2012 (the effective date of AD 2012-22-02), using Boeing Service Bulletin 747-53A2784, dated August 27, 2009, which is not incorporated by reference in this AD.

(2) This paragraph provides credit for the actions required by paragraphs (h), (i), and (k) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 747-53A2784, Revision 1, dated September 14, 2011.

**(n) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (o) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing

Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(o) Related Information**

(1) For more information about this AD, contact Bill Ashforth, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6432; fax: 425-91-6590; email: Bill.Ashforth@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on April 15, 2016.

**Victor Wicklund,**  
*Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.*

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